

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A door sensor comprising: ~~characterized in that it is equipped~~
~~with~~

at least one door position detector ~~detecting means~~ which is attached to at least one door
body that can be opened and/or closed and which is capable of detecting at least one position
occupied by the at least one door body during opening and/or closing thereof;

at least one object detector ~~detecting means~~ which is attached to the at least one door
body and which detects a presence and/or an absence of at least one object in at least one
detectable zone; and

at least one object determining circuit ~~means~~ which receives at least one output from the
at least one door position detector ~~detecting means~~ and the at least one object detector ~~detecting~~
~~means~~, and which determines, in correspondence to at least one position occupied by the at least
one door body during opening and/or closing thereof, whether at least one object detected by the
at least one object detector ~~detecting means~~ is at least one object intended for detection,

wherein the at least one door position detector is attached to at least one door body
capable of being opened and/or closed as a result of rotational motion, and includes at least one
sensor which employs geomagnetism to detect at least one angular displacement position of the
at least one door body.

2-3. (Canceled)

4. (Currently Amended) A door sensor according to claim 1, ~~the door sensor being characterized in that it is further~~ comprising: ~~equipped with~~

at least one door controller that is attached to at least one surface facing toward at least one direction toward which the at least one door body moves when it is being opened and that stops, slows, and/or reverses the process of opening the door body in the event that at least one object detected by the at least one object detector ~~detecting means~~ is at least one object intended for detection.

5. (Currently Amended) A door sensor according to claim 1, ~~the door sensor being characterized in that it is further~~ comprising: ~~equipped with~~

at least one door controller that is attached to at least one surface facing toward at least one direction toward which the at least one door body moves when it is being closed and that stops, slows, and/or reverses the process of closing the door body in the event that at least one object detected by the at least one object detector ~~detecting means~~ is at least one object intended for detection.

6. (Currently Amended) A door sensor according to claim 4, ~~the door sensor being characterized in that it is further~~ comprising: ~~equipped with~~

at least one door controller that is attached to at least one surface facing toward at least one direction toward which the at least one door body moves when it is being closed and that stops, slows, and/or reverses the process of closing the door body in the event that at least one

object detected by the at least one object detector ~~detecting means~~ is at least one object intended for detection.

7. (Currently Amended) A door sensor according to claim 1, wherein ~~the door sensor being characterized in that~~

the at least one door position detector ~~detecting means~~, the at least one object detector ~~detecting means~~, and the at least one object determining circuit ~~means~~ are housed within one sensor package.

8. (Currently Amended) A door sensor according to claim 4, wherein ~~the door sensor being characterized in that~~

the at least one door position detector ~~detecting means~~, the at least one object detector ~~detecting means~~, and the at least one object determining circuit ~~means~~ are housed within one sensor package.

9. (Currently Amended) A door sensor according to claim 5, wherein ~~the door sensor being characterized in that~~

the at least one door position detector ~~detecting means~~, the at least one object detector ~~detecting means~~, and the at least one object determining circuit ~~means~~ are housed within one sensor package.

10. (Currently Amended) A door sensor according to claim 1, ~~the door sensor being characterized in that it is further comprising: equipped with~~

at least one fixed object detector ~~detecting means~~ which is attached to at least one fixed object installed at at least one arbitrary location and which detects a presence and/or an absence of at least one object within at least one detectable zone, the at least one detectable zone being at least one previously established fixed location.

11. (Currently Amended) A door sensor according to claim 4, ~~the door sensor being characterized in that it is further comprising: equipped with~~

at least one fixed object detector ~~detecting means~~ which is attached to at least one fixed object installed at at least one arbitrary location and which detects a presence and/or an absence of at least one object within at least one detectable zone, the at least one detectable zone being at least one previously established fixed location.

12. (Currently Amended) A door sensor according to claim 5, ~~the door sensor being characterized in that it is further comprising: equipped with~~

at least one fixed object detector ~~detecting means~~ which is attached to at least one fixed object installed at at least one arbitrary location and which detects a presence and/or an absence of at least one object within at least one detectable zone, the at least one detectable zone being at least one previously established fixed location.

13. (Currently Amended) A door sensor according to claim 7, ~~the door sensor being characterized in that it is further comprising: equipped with~~

at least one fixed object detector ~~detecting means~~ which is attached to at least one fixed object installed at at least one arbitrary location and which detects a presence and/or an absence of at least one object within at least one detectable zone, the at least one detectable zone being at least one previously established fixed location.

14. (Currently Amended) A door sensor according to claim 1, wherein ~~the door sensor being characterized in that~~

at least one position information output from one of the at least one door position detector ~~detecting means~~ is used in a shared fashion with a plurality of object detection outputs from a plurality of the at least one object detector ~~detecting means~~.

15. (Currently Amended) A door sensor according to claim 4, wherein ~~the door sensor being characterized in that~~

at least one position information output from one of the at least one door position detector ~~detecting means~~ is used in a shared fashion with a plurality of object detection outputs from a plurality of the at least one object detector ~~detecting means~~.

16. (Currently Amended) A door sensor according to claim 5, wherein ~~the door sensor being characterized in that~~

at least one position information output from one of the at least one door position detector ~~detecting means~~ is used in a shared fashion with a plurality of object detection outputs from a plurality of the at least one object detector ~~detecting means~~.

17. (Currently Amended) A door sensor according to claim 10, wherein ~~the door sensor~~ ~~being characterized in that~~

at least one position information output from one of the at least one door position detector ~~detecting means~~ is used in a shared fashion with a plurality of object detection outputs from a plurality of the at least one object detector ~~detecting means~~.

18. (Currently Amended) A door sensor according to claim 1, wherein ~~characterized in~~ ~~that~~

~~whereas~~ the at least one object detector ~~detecting means~~ is constituted so as to permit switching between or among detectable zones; and

the door sensor ~~is further comprises~~ ~~equipped with~~ at least one zone switching circuit ~~means~~ which receives at least one output from the at least one door position detector ~~detecting means~~ and which switches between or among detectable zones of the at least one object detector ~~detecting means~~ in correspondence to at least one position occupied by the at least one door body during opening and/or closing thereof.

19. (Currently Amended) A door sensor according to claim 4, wherein characterized in that

~~whereas~~ the at least one object detector ~~detecting means~~ is constituted so as to permit switching between or among detectable zones; and

the door sensor ~~is further~~ comprises ~~equipped with~~ at least one zone switching circuit means which receives at least one output from the at least one door position detector ~~detecting means~~ and which switches between or among detectable zones of the at least one object detector ~~detecting means~~ in correspondence to at least one position occupied by the at least one door body during opening and/or closing thereof.

20. (Currently Amended) A door sensor according to claim 5, wherein characterized in that

~~whereas~~ the at least one object detector ~~detecting means~~ is constituted so as to permit switching between or among detectable zones; and

the door sensor ~~is further~~ comprises ~~equipped with~~ at least one zone switching circuit means which receives at least one output from the at least one door position detector ~~detecting means~~ and which switches between or among detectable zones of the at least one object detector ~~detecting means~~ in correspondence to at least one position occupied by the at least one door body during opening and/or closing thereof.

21. (Currently Amended) A door sensor according to claim 7, wherein characterized in
that

~~whereas~~ the at least one object detector ~~detecting means~~ is constituted so as to permit
switching between or among detectable zones; and

the door sensor ~~is further~~ comprises ~~equipped with~~ at least one zone switching circuit
~~means~~ which receives at least one output from the at least one door position detector ~~detecting~~
~~means~~ and which switches between or among detectable zones of the at least one object detector
~~detecting means~~ in correspondence to at least one position occupied by the at least one door body
during opening and/or closing thereof.

22. (Currently Amended) A door sensor according to claim 10, wherein characterized in
that

~~whereas~~ the at least one object detector ~~detecting means~~ is constituted so as to permit
switching between or among detectable zones; and

the door sensor ~~is further~~ comprises ~~equipped with~~ at least one zone switching circuit
~~means~~ which receives at least one output from the at least one door position detector ~~detecting~~
~~means~~ and which switches between or among detectable zones of the at least one object detector
~~detecting means~~ in correspondence to at least one position occupied by the at least one door body
during opening and/or closing thereof.

23. (Currently Amended) A door sensor according to claim 14, wherein characterized in that

~~whereas~~ the at least one object detector ~~detecting means~~ is constituted so as to permit switching between or among detectable zones; and

the door sensor ~~is further~~ comprises ~~equipped with~~ at least one zone switching circuit ~~means~~ which receives at least one output from the at least one door position detector ~~detecting means~~ and which switches between or among detectable zones of the at least one object detector ~~detecting means~~ in correspondence to at least one position occupied by the at least one door body during opening and/or closing thereof.

24. (Currently Amended) A door characterized in that the at least one door sensor according to claim 1 is attached to at least one door body, the door body engaging in opening and/or closing operations in a linked fashion with object detecting operations of the at least one door sensor.